

UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604820A Radar Development				PROJECT DE10		
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
DE10 Sentinel	0	6742	5128	8481	10067	0	0	0	0	166156
<p>A. Mission Description and Budget Item Justification: The Sentinel, AN/MPQ-64, consists of a radar-based sensor with its prime mover/power, identification friend or foe (IFF), and FAAD Command, Control, and Intelligence (C2I) interfaces. The sensor is an advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 40 km. The Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke aerosols, and enemy countermeasures. It provides 360 degree azimuth coverage for acquisition tracking. The Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying, and reporting targets (cruise missiles, unmanned aerial vehicles, rotary wing and fixed wing aircraft). This Pre-Planned Product Improvement (P3I) Program will improve Sentinel's capability against evolving threats. The P3I will provide increased capabilities for the Sentinel to keep abreast of the evolving technological threat of small radar cross-section targets such as cruise missiles and unmanned aerial vehicles.</p> <p>FY 1998 Accomplishments: This project line was not funded in FY 1998 but a Congressional plus up to PE 0604741A, project D126 for the Sentinel transmitter upgrade was provided and placed on contract in FY 1998.</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 1853 Conduct Transmitter Prototype Design and Development • 1800 Adjunct Sensor Test Article • 529 Adjunct Sensor Technical Testing • 318 Participation in Technical Test Data Reduction for Adjunct Sensor • 212 Adjunct Sensor Performance Specification Development • 514 Conduct Waveform Prototype Design and Development • 635 Adjunct Sensor Integration • 703 Adjunct Sensor Survivability Improvement/Cost Reduction Initiatives Design and Development • 178 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs <p>Total 6742</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 1670 Complete Transmitter Prototype Design and Development • 2707 Conduct Waveform Prototype Design and Development • 751 Conduct Beam Steering Unit Prototype Design and Development <p>Total 5128</p>										
Project DE10				Page 1 of 5 Pages				Exhibit R-2 (PE 0604820A)		

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<p>D. Acquisition Strategy: The modernization program will award a sole source CPAF contract to the production manufacturer. The effort will aggressively implement the tenets of Cost As Independent Variable (CAIV) to assure Total Ownership Costs of the Sentinel are reduced. The contractor will be incentivized to reduce both acquisition and operational support costs for the Sentinel program. The program will take advantage of already developed items and certain off the shelf technologies to minimize risk while insuring cost schedule and performance goals are achieved.</p>																																																																
Project DE10		Page 2 of 5 Pages				Exhibit R-2 (PE 0604820A)																																																										

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DATE

February 1999

BUDGET ACTIVITY

5 - Engineering and Manufacturing Development

PE NUMBER AND TITLE

0604820A Radar Development

PROJECT

DE10

E. Schedule Profile	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Adjunct Sensor Technical Evaluation Testing		4Q						
Transmitter Test and Acceptance			4Q					
Waveform Test and Acceptance				4Q	1Q			
Target Classification Test and Acceptance					1Q			
Adjunct Sensor Test and Acceptance					4Q			

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604820A Radar Development					PROJECT DE10		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. System Development	C/FFP	Hughes Aircraft Co. Fulleton, CA	56836								56836	56836
b. Technical requirement definition, corrective action & simulation	MIPR	Various AMCOM contractors/locations	18704								18704	18704
c. Adjunct Sensor Survivability Analysis	MIPR	Dynetics Huntsville, AL		664	2Q						664	664
d. Misc requirements definition, ECM and survivability efforts.	MIPR	Various other agency contractors/locations	5270								5270	5270
e. Adjunct Sensor	SS/CPAF	Lockheed Martin Sunny Vale, CA		1700	2Q					5040	6740	6740
f. Adjunct Sensor Integration	SS/CPAF	Raytheon Company El Segundo, CA		600	2Q						600	600
g. P3I Developments	SS/CPAF	Raytheon Company El Segundo, CA		2235	2Q	4087	2Q	7252	2Q	1817	15391	15391
h. SBIR/STTR	Various	Various		178	2Q						178	178
Subtotal Product Development:			80810	5377		4087		7252		6857	104383	104383
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Program Support Services	MIPR	AMCOM Redstone Arsenal, AL	9945	372	2Q	165	2Q	195	2Q	187	10864	
b. Other Agency Support Services	MIPR	Various	1707								1707	
Subtotal Support Costs:			11652	372		165		195		187	12571	
Project DE10												
Page 4 of 5 Pages												
Exhibit R-3 (PE 0604820A)												

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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. IOT&E	MIPR	OPTEC Alexandria, VA	24180								24180	
b. Other/Misc Test and Evaluation Activity	MIPR	Various	7703	800	2Q						8503	
c. Technical Test	MIPR	Redstone Technical Test Center Redstone Arsenal, AL	1213			670	2Q	804	1Q	2798	5485	
Subtotal Test and Evaluation:			33096	800		670		804		2798	38168	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 1999</u> Cost	<u>FY 1999</u> Award Date	<u>FY 2000</u> Cost	<u>FY 2000</u> Award Date	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Product Manager Support	MIPR	PM Sentinel/AMCOM Redstone Arsenal, AL	10180	128	2Q	70	2Q	82	2Q	80	10540	
b. Contractor Support to Product Manager	FP	Vista Tech, Huntsville, AL /TBD		65	2Q	136	2Q	148	2Q	145	494	
Subtotal Management Services:			10180	193		206		230		225	11034	
Project Total Cost:			135738	6742		5128		8481		10067	166156	

Project DE10
Page 5 of 5 Pages
Exhibit R-3 (PE 0604820A)

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